



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,176	10/28/2003	Tomonari Horikiri	1232-5185	6564
27123	7590	05/17/2006	EXAMINER	
MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			MOON, SEOKYUN	
			ART UNIT	PAPER NUMBER
			2629	

DATE MAILED: 05/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/696,176	HORIKIRI, TOMONARI	
	Examiner	Art Unit	
	Seokyun Moon	2629	

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>05/03/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement filed on May 03, 2004 has been acknowledged and considered by the Examiner.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1, 2, 6-11, and 13** are rejected under 35 U.S.C. 102(b) as being unpatentable by Jacobson et al. (U.S. Pat. No. 6,323,989 B1, herein after referred to as "Jacobson").

As to **claim 1**, Jacobson [fig. 2A] teaches an electrophoretic display [abstract], comprising:

a substrate ("*substrate 206*"), and

at least one pixel disposed thereon comprising electrophoretic particles ("*nanoparticles 214*") and a dispersion medium ("*dyed liquid 212*") or comprising

the electrophoretic particles, the dispersion medium and a color filter layer, wherein at least one of the electrophoretic particles, the dispersion medium and the color filter layer constituting each pixel has a property of being colored a predetermined color by an external stimulus and said one of the electrophoretic particles, the dispersion medium and the color filter layer is changeable into a colored member by the external stimulus ("*strong electric field*") [col. 8 lines 7-19 and col. 10 lines 9-12].

As to **claim 2**, Jacobson teaches the colored member being at least one of the electrophoretic particles, the dispersion medium, and the color filter layer [col. 10 lines 9-12].

As to **claim 6**, Jacobson inherently teaches a process for producing an electrophoretic display comprising a step of providing a member and a step of coloring the member since all features of the inventions disclosed in claim 6 which is supposed to be achieved by the process is implemented in Jacobson, as discussed with respect to the rejection of claim 1.

As to **claim 7**, all of the claim limitations have already been discussed with respect to the rejection of claim 2.

As to **claim 8**, Jacobson [fig. 2A] teaches the process to comprise a step of spatially sealing hermetically the electrophoretic particles ("*nanoparticle 214*") and the dispersion medium ("*dyed liquid 212*") since the medium and the electrophoretic particles of Jacobson's display are sealed completely inside of "*microcapsule walls 210*").

As to **claim 9**, Jacobson teaches the coloring step to be performed after the hermetically sealing step (sealing step is completed in the production process and coloring step is accomplished when Jacobson's display device is in operation. thus the sealing is completed before the coloring step).

As to **claim 10**, Jacobson teaches the external stimulus to be selected from the group consisting of thermal energy, light energy, electron ray ("*electric field*"), gamma ray, and x-ray [col. 10 lines 9-12].

As to **claim 11**, Jacobson teaches said at least one pixel to be a plurality of pixels [col. 15 line 63 - col. 16 line 3: disclosing that a display device is comprised of various pixels].

As to **claim 13**, Jacobson [col. 8 lines 7-19 and col. 10 lines 9-12] teaches the external stimulus to be applied in a state that the electrophoretic particles and the dispersion medium are encapsulated in a microcapsule [fig. 2A].

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 3, 4, and 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobson in view of Loxley et al. (U.S. Pat. No. 6,262,833 B1, herein after referred to as "Loxley").

As to **claim 3**, Jacobson does not teach the colored member containing a dye which is colored by at least the external stimulus.

However, Loxley [fig. 1] teaches an electrophoretic display containing a dye ("*fluid 10*") which is colored by at least the external stimulus ("*irradiation with visible or ultraviolet light*") [col. 17 lines 39-42]

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Jacobson's display device to include a dye of which the color can be changed by an optical stimulus, as taught by Loxley to provide additional means / method to change the colors of the images to be displayed in a display, and thus to increase the reliability of the device.

As to **claim 4**, the modified Jacobson [fig. 2A] teaches the dye (the modified "*dyed liquid 212*") to be encapsulated in a microcapsule ("*microcapsule walls 210*").

As to **claim 5**, the modified Jacobson teaches the dye having a property of assuming a plurality of different colors by at least one species of external stimulus (Loxley: "*strong electric field*") [Loxley: col. 7 lines 39-42].

7. **Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobson in view of Moore (U.S. Pat. No. 6,611,100 B1, herein after referred to as "Moore").

Jacobson teaches that a pixel is supplied with the external stimulus [col. 10 lines 9-13].

Jacobson does not expressly disclose a part of the plurality of pixels is supplied with the external stimulus.

However, it is required for Jacobson to control each of plurality of pixels included in a display separately to output an inputted image with appropriate colors.

Therefore, it is inherent to specify only a part of the plurality of pixels needed to display an image to be supplied with external stimulus while the rest of the plurality of pixels are not supplied with stimulus.

Jacobson does not expressly disclose a part of the plurality of pixels to be shielded.

However, Moore teaches [figs. 10C and 11A] teaches a pixel being shielded by an absorbing film.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include Moore's absorbing film in each of Jacobson's plural pixels to block all unwanted light, thus to provide a better contrast and a clear image [col. 3 lines 59-61].

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seokyun Moon whose telephone number is (571) 272-5552. The examiner can normally be reached on Mon - Fri (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

May 9, 2006
S.M.

AMR A. AWAD
PRIMARY EXAMINER
